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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,367

04/27/2005

Chiaki Kobayashi

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EXAMINER

KIRKLAND III, FREDDIE

ART UNIT

PAPER NUMBER

2855

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/507,367

Applicant(s)

KOBAYASHI ET AL.

Examiner

Freddie Kirkland III

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/20/04 9/28/04 4/27/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**FIRST NON FINAL ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, drawn to pressure sensor, classified in class 73, subclass 862.041.
- II. Claims 15-18, drawn to method of fabricating, classified in class 29, subclass 592.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the method of fabricating a sensor from group II can be used to make a difference pressure sensor than the pressure sensor claimed in group I.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Sherree Rowe on 12/22/06 a provisional election was made without traverse to prosecute the invention of group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 15-18 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Objections***

Claim 8 recites the limitation "the peripheral portion" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 9 recites the limitation "the center" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 14 recites the limitation "the central portion" in 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, and 3-7 are rejected under 35 U.S.C. 102(e) as being anticipated by DeConde et al. US Patent 6,889,565.

With respect to claims 1 and 15, DeConde teaches a fingerprint sensor apparatus using membrane switch arrays and a method of fabricating wherein each of the sensor sections includes: a first electrode (50) disposed in a sensor section; a first insulating film (80) covering the first electrode; a sensor hole (annular protrusion 81) formed in the first insulating film and, also, exposing part of the first electrode; a cavity (gap 54) located at least above the sensor hole and a portion surrounding it; and a second electrode (66) disposed opposite to the first electrode with the cavity interposed there between and, also, capable of being curved to the first electrode side (the method of fabricating the sensor is taught by DeConde because he teaches the final apparatus).

With respect to claim 3, DeConde teaches wherein the first insulating film has at least one recess on the first electrode in addition to a sensor hole thereon (figure 5-C).

With respect to claim 4, DeConde teaches wherein an end edge of the first insulating film is located at the periphery of the first electrode (figure 5-C).

With respect to claim 5, DeConde teaches wherein a thickness of the first insulating film present at the periphery of the sensor hole is in the range of about 2000 to about 5000 angstroms (col. 9 lines 36-39).

With respect to claim 6, DeConde teaches wherein the sensor hole is in the shape of a circle and a diameter thereof is in the range of about 5 to about 40 micrometers (DeConde teaches that the free part of electrode 66 is between 1 and 5 micrometer, therefore the annular protrusion has to be comparable in size).

With respect to claim 7, DeConde teaches wherein the end edge of the first insulating film rising from a surface of the first electrode located below the cavity is inclined to the first electrode (figure 5-C).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeConde et al. US Patent 6,889,565 in view of Satou et al. US Patent 6,631,645.

With respect to claim 2, DeConde fails to teach wherein the first electrode includes: a central electrode portion located at almost the center of the sensor section; and an annular portion located in the sensor section and, also, formed so as to enclose the central electrode portion.

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Satou teaches a semiconductor pressure sensor where the first electrode (6) includes a central portion and an annular portion formed so as to enclose the central portion (figure 2).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration as taught by Satou in the invention of DeConde in order increase efficiency and improve the sensors output (col. 3 lines 3-5).

Claims 8-10 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeConde et al. US Patent 6,889,565 in view of Ishio et al. US Patent 6,640,643.

With respect to claim 8, DeConde fails to teach wherein release holes are disposed in the second electrode so as to correspond to the peripheral portion of the first electrode.

Ishio teaches a capacitive pressure sensor where an electrode (21) has holes (60) there through so that the cavity spaces are sealed to provide an inner pressure (col. 3 lines 28-35, col. 4 lines 40-46).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the holes as taught by Ishio in the invention of DeConde in order to provide better communication between the first and the second electrodes.

With respect to claims 9-10 and 14-18, DeConde fails to teach a second insulating film is stacked on the second electrode, and the second insulating film in the vicinity of the center of the sensor section is removed to form an opening.

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Ishio teaches an insulation film (43) that is stacked onto an electrode (23), the insulation film is removed to form an opening (figure 2), and an overcoat 24 is formed on the electrode (on the electrode through the film 43, (the method of fabricating the sensor is taught by DeConde in view of Ishio because they teach the final apparatus).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the insulation film configuration as taught by Ishio in the invention of DeConde in order provide better protection to the second electrode.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freddie Kirkland III whose telephone number is 571-272-2232. The examiner can normally be reached on Monday through Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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12/10/06